

IN THE CLAIMS:

Claims 1 through 220 were previously cancelled.

221. (Currently Amended) A method for ~~use in a wireless network to~~ obtaining requested location information regarding a first of a plurality of ~~mobile terrestrial~~ wireless mobile stations using location information from ~~any of various~~ location estimating sources, and to provide the requested location information to an application using wireless location application, ~~there being a plurality of the location estimating sources, including a first location estimating source for obtaining location information and a second location estimating source for obtaining location information, the first and second location estimating sources for providing information regarding locations of various of the mobile wireless stations in the network,~~ the method comprising the steps of:

first receiving a location request regarding ~~[[a]] the first of said wireless mobile station[[s]] from said first the wireless location~~ application, said location request seeking said requested location information;

first obtaining~~[[:]]~~ a first location input obtained using an instance, I_1 , of ~~said~~ location information from said first location estimating source, wherein I_1 is indicative of one or more locations of said first wireless mobile station, and

second obtaining a second location input obtained using an instance, I_2 , of ~~said~~ location information provided from said second location estimating source, wherein I_2 is indicative of one or more locations of said first wireless mobile station;

wherein said first location estimating source employs a first location finding technology that provides I_1 , and said second location estimating source employs a second location finding technology different than said first location finding technology that provides I_2 ; and

wherein said steps of first and second obtaining includes a step of providing said first and second location inputs in a common standardized format;

storing data in memory relating to said first location input and said second location input;

third obtaining said requested location information by selectively using portions of said data from said memory, wherein said requested location information is determined according to

information indicative of a manner in which said ~~first wireless location~~ application prefers said requested location information; and

outputting said requested location information to said ~~first wireless location~~ application.

222. (Currently Amended) The method of Claim 221, wherein for locating a second of the mobile stations, there is a further step of requesting activation of each of one or more of said ~~plurality of~~ location estimating sources according to an availability of corresponding wireless signal measurements from the second mobile station for the one or more location estimating sources.

223. (Currently Amended) The method of Claim 221, further including, for locating a second of the mobile stations, a step of obtaining an instance of a third location input from a third of the ~~plurality of~~ location estimating sources different from said first and second location estimating sources.

224. (Currently Amended) The method of Claim ~~[[221]]~~ 223, further including, for locating one of the first and a second of the mobile stations, a step of obtaining an instance of a third location input by using a third location finding technology different from the first and second location finding technologies.

225. (Previously Presented) The method of Claim 224, further including providing said instance of said third location input in said standardized format.

226. (Currently Amended) The method of Claim 221, wherein said step of providing includes representing each of said first and second location inputs in a common data representation having a plurality of location attributes, including a common representation A_1 for representing a geographical position for the first mobile station, and one or more attributes related to one of: an error in data for A_1 , a likelihood of the first mobile station being in the geographical extent represented by A_1 , a timestamp related to the first mobile station being in the geographical extent represented by A_1 , and descriptor information related to location processing performed by one of said first and second location estimating sources ~~resources in obtaining an instance of said location information for M_2~~ .

227. (Previously Presented) The method of Claim 226, wherein said step of providing includes a common representation for representing one or more of said location attributes related to an error in data for A_1 .

228. (Previously Presented) The method of Claim 226, wherein said step of providing includes a common representation for representing one or more of said location attributes related to a likelihood of the first mobile station being in the geographical extent represented by A_1 .

229. (Previously Presented) The method of Claim 226, wherein said step of providing includes a common representation for representing one or more of said location attributes related to a timestamp related to the first mobile station being in the geographical extent represented by A_1 .

230. (Previously Presented) The method of Claim 226, wherein said step of providing includes a common representation for representing one or more of said location attributes for descriptor information related to location processing performed by one of said location estimating sources in obtaining an instance of said location information for the first mobile station.

231. (Previously Presented) The method of Claim 226, wherein for locating a second of the mobile stations, further including a step of providing one or more location input instances of location information by one or more of said location estimating sources in said common data representation.

232. (Previously Presented) A method as set forth in claim 221, wherein said step of storing comprises storing information for individual ones of said wireless mobile stations including at least a location and a time.

233. (Previously Presented) A method as set forth in claim 221, wherein said step of storing comprises storing information for individual ones of the wireless mobile stations including one or more values indicative of an uncertainty regarding a location of the individual wireless mobile station.

234. (Previously Presented) A method as set forth in claim 221, wherein said step of storing comprises storing information for individual ones of said wireless mobile stations including one of a travel speed and a travel direction.

235. (Previously Presented) A method as set forth in claim 221, wherein said step of first obtaining comprises sending data for requesting activation of one of the first location estimating source and the second location estimating source to obtain the corresponding one of first and second location input.

236. (Previously Presented) A method as set forth in claim 221, wherein said step of third obtaining comprises determining additional location information including at least a wireless station identification and a location of the first wireless mobile station.

237. (Currently Amended) A method as set forth in claim 221, wherein said step of third obtaining comprises determining additional location information including a time and an uncertainty or likelihood regarding location of the first mobile station.

238. (Previously Presented) A method as set forth in claim 221, wherein said step of third obtaining comprises providing additional location information including one of a speed of travel and direction of travel for the first wireless mobile station.

239. (Currently Amended) A method as set forth in claim 221, further comprising combining (a) and (b) following to make a location determination: (a) a first portion of said portions of said data, the first portion obtained using said first location input, with (b) a second portion of said portions of said data, the second portion obtained using said second location input ~~to make a location determination.~~

240. (Currently Amended) A method as set forth in claim 239, wherein said step of combining comprises obtaining a first set of information including first location information and first time information for said first wireless mobile station, obtaining a second set of information

including second location information and second time information for said first wireless mobile station, determining a time difference between said first and second sets of information, and adjusting one of said first and second sets of information based on said time difference.

241. (Currently Amended) A method as set forth in claim 240, wherein said adjusting ~~includes comprising~~ calculating one of a change in position and a value related to an uncertainty in position dependent on said time difference.

242. (Currently Amended) A method as set forth in claim 239, wherein said step of combining comprises obtaining a first set of position information including a position and first value related to an uncertainty, obtaining a second set of information including a position and second value related to an uncertainty and combining said first set and said second sets to yield a third set including a position and an uncertainty for said wireless station, wherein said third set includes a reduced uncertainty relative to said first and second sets.

243. (Currently Amended) A method as set forth in claim 239, wherein said first location finding technology ~~includes involves a first location finding controller for~~ receiving first location data from a first source and determining, using said first location data, one or more first geometric extents for a location of the first mobile station and a value related to an uncertainty of said one or more first geometric extents to thereby provide said first location input, and

wherein said second location finding technology ~~involves~~ includes obtaining second location data from a second source and determining, using said second location data, one or more second geometric extents for a location of the first mobile station and a value related to an uncertainty of said one or more second geometric extents to thereby provide said second location input, and

wherein the first source includes a non-terrestrial wireless transmitter above and not supported on the Earth's surface, and the second location data includes information related to a wireless signal time delay of transmissions between the first mobile station, and at least one terrestrial base station ~~said step of combining comprises obtaining said first data from said first source, obtaining said second data from said second source, and said step of combining further comprises using one of said first data and said second data to obtain derived location information.~~

244. (Currently Amended) A method as set forth in claim 221, further comprising the steps of:

obtaining tracking information regarding movement of said first wireless mobile station[[,]]; and
using said tracking information to derive location information.

245. (Currently Amended) A method for estimating, for each mobile station **M** of a plurality of mobile stations, an unknown terrestrial location[[,]] (L_M)[[,]] for **M** using wireless signal measurements obtained ~~from~~ via transmissions between said mobile station **M** and a plurality of fixed location terrestrial communication stations, wherein each of said communications stations is substantially co-located with one or more of a transmitter and a receiver for wirelessly communicating with said mobile station **M**, comprising:

initiating a plurality of requests for information related to the location of said mobile station **M**, the requests provided to each of at least two mobile station location evaluators, wherein there is at least a first of the requests provided to a first of the location evaluators and a second of the requests, different from the first request, provided to a second of the location evaluators, such that when said location evaluators are supplied with corresponding input data having values obtained using wireless signal measurements obtained via two way wireless communication between said mobile station **M**, and the communication stations, each of said first and second location evaluators determine corresponding location information related to L_M , and

wherein for at least one location **L** of one of the mobile stations, said first location evaluator and said second location evaluator output, respectively, first and second position information related to the one mobile station being at **L** wherein neither of the first and second position information is dependent upon the other;

obtaining a first collection of location information of said mobile station **M**, wherein the first collection includes first location information from the first location evaluator, and second location information from the second location evaluator;

determining resulting information related to the location L_M of the mobile station **M**, wherein the resulting information is dependent on geographical information in each of the first and second location information; and

transmitting, to a predetermined destination via a communications network, the resulting information.

246. (Currently Amended) The method of Claim 245, further including the following steps:

second obtaining, from an additional one or more of the location evaluators, additional ~~second collection of~~ location information using values obtained from wireless signal measurements for a time different from a time of the communications between the mobile station **M** and the communication stations for obtaining the first collection;

determining, as part of said resulting information, a resulting location estimate of the mobile station **M**, wherein said resulting location estimate is dependent upon a value obtained from said additional ~~second collection of~~ location information estimates.

247. (Currently Amended) A method for locating mobile stations at one or more unknown terrestrial locations using wireless signal measurements obtained via ~~from~~ transmissions between said mobile stations and a plurality of fixed location terrestrial communication stations, wherein each of said communications stations includes one or more of a transmitter and a receiver for wirelessly communicating with said mobile stations, comprising:

receiving, from a plurality of location requesting sources, a plurality of input requests for locations of the mobile stations, wherein for each of the input requests there is a corresponding destination for a responsive output;

for each of the input requests, providing one or more location requests for location information, related to a location of one of said mobile stations, to one or more mobile station location determining sources;

first obtaining, in response to a first of the location requests received from a first of the requesting sources, at least first location information of a first location of a first of said mobile stations, said first location information determined using a first set of one or more wireless location techniques;

first determining, using said first location information, first output location data according to a first output criteria for the corresponding destination for the first request, said first output location data including a representation identifying a first geographical ~~range~~ location of the first location;

second obtaining, in response to a second of the location requests received from a second of the requesting sources, at least second location information of a second location of a second of said mobile stations, said second location information determined using a second set of one or

more wireless location techniques, wherein the second set determines the second location information by activating at least one ~~computational~~ location computing module for locating the second mobile station from at least a portion of the signal measurements, wherein the at least one location computing module ~~that~~ is not activated for determining the first location information;

second determining, using said second location information, second output location data according to a second output criteria for the corresponding destination for the second request, said second output location data including a representation identifying a second geographical range location of the second location;

wherein for at least one of said first and second output criteria, there is an output criteria for another of the location requests that is different from said at least one output criteria;

first transmitting said first output location data to its corresponding destination via a communications network; and

second transmitting said second output location data to its corresponding destination via a communications network, the first and second locations being different.

248. (Previously Presented) The method of Claim 247, wherein for at least one of said location techniques of said first set, and for a different one of said location techniques of said second set there is a common predetermined interface at which said first and second location information are received.

249. (Previously Presented) The method of Claim 247, wherein said steps of first and second determining use at least one common mobile station location related component for determining, respectively, said first output location data and said second output location data

250. (Previously Presented) The method of Claim 247, wherein said steps of first and second transmitting includes outputting said first and second output location data via a common predetermined network interface.

251. (Previously Presented) The method of Claim 247, wherein said first determining step includes accessing mobile station location output frequency information of said first output criteria.

Please delete Claim 252.

253. (Previously Presented) The method of Claim 247, wherein at least one of said first determining and said first transmitting steps includes determining a particular protocol for outputting said first output location data on the communication network for transmission to the corresponding destination for the first location request.

254. (Currently Amended) The method of Claim 247, wherein said first output criteria includes information for determining said representation of said first geographical ~~range~~ location using a location of a known geographical feature different from the communication stations.

255. (Previously Amended) The method of Claim 254, wherein the known geographical feature includes a roadway, and said determining step includes snapping to the roadway.

256. (Currently Amended) The method of Claim 247, wherein said corresponding destination for said first location request is for a first application, and said corresponding destination for said second location request is for a second application, wherein said first and second applications, respectively, use said first and second output location data differently; wherein said first and second applications are for corresponding different ones of the following: responding to emergency calls, tracking, routing, and animal location including applications for confinement to or exclusion from certain areas.

Please delete Claim 257.

258. (Currently Amended) The method of Claim ~~[[256]]~~ 247, wherein said corresponding destination for said first location request is for a first application, and said corresponding destination for said second location request is for a second application;

wherein said first output criteria includes information for determining a first location granularity at which a location estimate of the first mobile station is transmitted in said first output location data, wherein said first location granularity is dependent upon said first application.

259. (Currently Amended) The method of Claim [[256]] 247, wherein said corresponding destination for said first location request is for a first application, and said corresponding destination for said second location request is for a second application;

wherein said first output criteria includes information for determining a first representation for said first output location data, wherein said first representation is dependent upon said first application, and said second output criteria includes information for determining a second representation for said second output location data, wherein said second representation is dependent upon said second application.

Please delete Claims 260 and 261.

262. (Previously Presented) The method of Claim 247, wherein at least one of said steps of receiving, first obtaining, second obtaining, first transmitting, and second transmitting receives or transmits wireless location related information on TCP/IP network.

263. (Currently Amended) The method of Claim 247, wherein said step of first obtaining includes receiving a first location estimate from a first of said location determining sources which performs an instance, I_1 , of a first technique for estimating a location of the first mobile station using signal transmissions to the first mobile station from non-terrestrial transmitters above and not supported on the Earth's surface, wherein said instance I_1 also uses wireless signals, S , between the first mobile station and at least one of the communication stations to improve at least one performance characteristic of said instance I_1 over a performance of I_1 without use of the wireless signals between the first mobile station and the at least one communication station.

264. (Previously Presented) The method of Claim 263, wherein the instance I_1 uses first information for locating the first mobile station, wherein the first information is dependent upon signal timing measurements from the wireless signals S .

265. (Previously Presented) The method of Claim 263, wherein the instance I_1 uses first information from the wireless signals S , wherein the first information is dependent upon a wireless coverage area of the at least one communication station.

266. (Previously Presented) The method of Claim 247, further including a step of providing display information for displaying a representation of a location estimate L of the first mobile station, wherein said display information is for displaying a map of an area having the location estimate L, and for concurrently displaying information indicating an accuracy of the location estimate L.

267. (Previously Presented) The method of Claim 266, wherein said display information is displayed at a mobile station M that has requested a location of the first mobile station.

268. (Currently Amended) A method for locating a first ~~and second~~ wireless mobile station[[s]] using measurements of wireless signals, wherein at least one of: (i) said measurements, and (ii) said wireless signals are transmitted between the first mobile station and at least one of a plurality of terrestrial transceivers, and for locating a second wireless mobile station using second measurements of second wireless signals, where at least one of: (1) said second measurements, and (2) said second wireless signals are transmitted between the second mobile station and at least one of [[a]] the plurality of terrestrial transceivers, wherein said transceivers are capable of at least wirelessly detecting a plurality of wireless transmitting mobile stations, including said first and second mobile stations, comprising:

providing access to first and second different mobile station location techniques, wherein each of said location techniques is capable of providing location information for each mobile station of at least some of said mobile stations when said location technique is supplied with corresponding data obtained from wireless signal measurements communicated between the mobile station and one or more of said plurality of transceivers, wherein for at least one location L of one of the mobile stations, said first location technique and said second location technique output, respectively, first and second position information related to the one mobile station being at L wherein neither of the first and second position information is dependent upon a change in the other;

first supplying said first location technique with first corresponding data obtained from wireless signal measurements communicated between one or more of: (a1) said first mobile station and one or more of said plurality of transceivers, and (a2) said second mobile station and one or more of said plurality of transceivers;

second supplying said second location technique with second corresponding data obtained from wireless signal measurements communicated between one or more of: (b1) said first mobile station and one or more of said plurality of transceivers, and (b2) said second mobile station and one or more of said plurality of transceivers;

first receiving from said first location technique, first location related information representing one or more of: a first range of locations for the first mobile station, and a second range of locations for the second mobile station;

second receiving from said second location technique, second location related information representing one or more of: a third range of locations for the first mobile station, and a fourth range of locations for the second mobile station;

determining resulting location information for each of the first and second mobile stations using at least one of: (c1) a first value obtained from said first location related information, and (c2) a second value obtained from said second location related information;

wherein there is at least one predetermined common location related component activated for determining the resulting location information for each of said first and second mobile stations, wherein:

- (i) said common component is activated, for locating said first mobile station, after at least one step of said steps of first and second supplying, and
- (ii) said common component is activated, for locating said second mobile station, after at least one step of said steps of first and second supplying;

providing said resulting location information for each of the first and second mobile stations for presentation, wherein said presentation for at least one of said first and second mobile stations is determined according to an expected accuracy of said resulting location information for the at least mobile station.

269. (Previously Presented) A method for locating a wireless mobile station, comprising:

repeatedly performing the following steps (A1) through (A3) for tracking the mobile station, wherein there is at least a first and a second mobile station location technique, each of the location techniques providing an instance of location information for a location of the mobile station to the step (A1) below at some time during said step of repeatedly performing;

wherein for at least one location L of the mobile station, said first mobile station location technique and said second mobile station location technique output location information instances

having, respectively, first and second position information for the mobile station being at L, wherein neither of the first and second position information varies substantially as a result in a change in the other;

(A1) receiving an instance, I_1 , of location information for the mobile station from at least one of the first and a second mobile station location techniques wherein I_1 includes position information for the mobile station;

(A2) determining at least one resulting instance of location information for said mobile station using at least one of: (a) a first value obtained from an instance of first location information received from said first location technique, and (b) a second value obtained from an instance of second location information received from said second location technique;

wherein said step of determining includes a step of determining a likely roadway upon which the mobile station is located;

(A3) outputting said resulting location information for display on a display device, wherein said resulting location information is displayed as at least one location of the mobile station on a map having roadways thereon.

270. (Previously Presented) The method of Claim 269, wherein at least one occurrence of said step of outputting includes transmitting said resulting location information via a telephony network.

271. (Previously Presented) The method of Claim 269, wherein said outputting step includes providing accuracy information indicating an accuracy of said resulting location information, wherein said accuracy information is displayed with said at least one location of the mobile station.

272. (Previously Presented) The method of Claim 269, wherein for at least one location of the mobile station said step of determining uses both said first and second values.

Please delete Claims 273 through 275.

276. (Currently Amended) A method for locating, from a plurality of wireless mobile stations, one of the wireless mobile stations using measurements of wireless signals, wherein at least one of: (i) said measurements and (ii) said wireless signals are transmitted

between said one mobile station and at least one of a plurality of fixed location communication stations, each communication station capable of at least one of receiving wireless signals from, and transmitting wireless signals to said one mobile station, comprising:

receiving, from each of at least first and second mobile station location estimators, corresponding first and second information related to $[[a]]$ likely geographical approximations for a location of said one mobile station, wherein:

- _____ (a) for determining a likely geographical approximation, GA_A , for a location, L_A , of a second of the mobile stations at a time T_A , said first location estimator generates GA_A without requiring a prior likely geographical location approximation generated by said second location estimator for locating the second mobile station at substantially the location L_A at substantially the time T_A , and,
- _____ (b) for estimating a likely geographical approximation, GA_B , for a location, L_B , of a third one of the mobile stations at a time T_B , said second location estimator generates GA_B without requiring a prior likely geographical location approximation generated by said first location estimator for locating the third mobile station at the location L_B at substantially the time T_B ;

determining a resulting location estimate of said one mobile station, wherein said step of determining includes at least one of the substeps (B1) through (B2) following:

- (B1) when said first and second information include, respectively, first and second likely geographical approximations, combining said first and second likely geographical approximations so that said resulting location estimate is dependent on each of said first and second location likely geographical approximations; and
- (B2) selecting one of said first and second information for receiving preference in determining said resulting location, wherein said selecting is dependent upon location related data in at least one of said first and second information.

277. (Previously Presented) The method of Claim 276, further including a step of providing display information for: (a) displaying a representation of said resulting location estimate, wherein said display information is for displaying with a map of an area having the resulting location estimate, and (b) concurrently displaying information indicative of an accuracy of the resulting location estimate.

278. (Currently Amended) A method for locating a wireless mobile station capable of wireless two way communication with a plurality of fixed location terrestrial stations, comprising:

providing access to a plurality of mobile station location estimating techniques, wherein each said location technique[[s]] provides location information ~~related to~~ having a location estimate of said mobile station when said location technique ~~is~~ are supplied with sufficient corresponding input information upon which ~~their~~ the location estimate ~~is~~ are dependent, and wherein the corresponding input information is at least partially derived from measurements of wireless signals transmitted from or received at the mobile station;

receiving, over time, a plurality of location estimates of the mobile station[[:]];

determining, a plurality of consecutive resulting location estimates for tracking the mobile station, wherein said step of determining includes steps (a) and (c) following:

- (a) deriving, for at least one time during the tracking, a corresponding one of said resulting location estimates of the mobile station using one of said ~~first one or more~~ location estimates by said first location technique for ~~a first location of~~ locating the mobile station;
- (b) deriving, for at least one time during the tracking, a corresponding one of said resulting location estimates of the mobile station using one of said ~~second one or more~~ location estimates by said second location technique for ~~a second location of~~ locating the mobile station;
- (c) preferring a location estimate of said first location ~~information~~ technique over a location estimate of said second location ~~information~~ technique when both are available for substantially a same location of the mobile station.

279. (Currently Amended) The method as claimed in Claim 278, wherein said step of determining includes:

establishing a priority between a location estimate of said first location ~~information~~ technique and a location estimate of said second location ~~information~~ technique.

280. (Currently Amended) The method as claimed in Claim 279, wherein said step of establishing includes obtaining a confidence value for one or more of: (a) at least one of said

location estimates for said first location ~~information technique~~; and (b) at least one of said location estimates for said second location ~~information technique~~;

wherein each said confidence value is indicative of a likelihood of the mobile station having a location represented by said corresponding location estimate for the confidence value.

Please delete Claim 281.

282. (Currently Amended) The method of Claim 278, further including the steps of: requesting one or more of the resulting location estimates via signals transmitted on the Internet ~~by a commercial mobile radio service provider that wirelessly communicates with the mobile station;~~

~~transmitting, via a communication network, at least one location of the mobile station to one of: the mobile station, another mobile station, a police unit, a vehicle, and a party requesting the location of the mobile station.~~

283. (Previously Presented) The method of Claim 278, wherein said determining step includes determining at least one of said resulting location estimates as a function of a position of a known geographical feature that is sufficiently close to one of the first or second location estimates so that the closeness is used to determine said more likely location estimate.

284. (Previously Presented) The method as claimed in Claim 278, wherein said step of determining includes, for at least one of said resulting location estimates, determining one or more of: (a) a velocity of the mobile station, (b) an acceleration of the mobile station, and (c) one or more geographical features near said at least one resulting location estimate.

285. (Currently Amended) A method for locating a mobile station using wireless signal measurements obtained from transmissions between said mobile station and a plurality of fixed location communication stations, wherein each of said communications stations includes one or more of a transmitter and a receiver for wirelessly communicating with said mobile station, comprising:

providing access to first and second mobile station location evaluators, wherein said location evaluators are able to determine information related to one or more location estimates of said mobile station when said location evaluators are supplied with data having values obtained

during wireless signal two way communication between said mobile station and the communication stations;

wherein for at least one location L of the mobile station, said first mobile station location evaluator and said second mobile station location evaluator output location information instances having, respectively, first and second position information for the mobile station being at L, wherein neither of the first and second position information substantially changes with a change in the other of the first and second position information;

first obtaining, from said first location evaluator, first location related information for identifying a location of the mobile station for at least one of the following situations: a tracking of the mobile station, and in response to a request for a location of the mobile station;

second obtaining, from said second location evaluator, second location related information for identifying a location of the mobile station for said same at least one situation;

determining ~~additional~~ resulting location information of the mobile station dependent upon at least one of: (a) a first value obtained from said first location related information, and (b) a second value obtained from said second location related information;

wherein said determining step includes providing the ~~additional~~ resulting location information with:

- (i) data indicative of one of: an error and a likelihood of the mobile station being at a location represented by said ~~additional~~ resulting location information; and
- (ii) a timestamp indicative of when the resulting location information corresponds to a location of the mobile station.

286. (Currently Amended) The method as claimed in Claim 285, wherein said mobile station is co-located with a processor for activating at least one of said location evaluators, said processor receives signals from a non-terrestrial wireless transmitter above and not supported on the Earth's surface.

287. (Previously Presented) The method of Claim 285, further including a step of transmitting said resulting location estimate on a communications network to a destination requesting the location of the mobile station.

288. (Previously Presented) The method of Claim 285, further including a step of determining, using said resulting location information, output location information according to

output criteria corresponding to an application requesting data related to a location of the mobile station.

289. (Previously Presented) The method of Claim 288, wherein said output criteria includes at least some of:

- (a) a transmission protocol;
- (b) a granularity of by which a location estimate of the mobile station represented by said resulting location information is to be provided;
- (c) a frequency with which repeated location estimates of the mobile station are to be output to the application;
- (d) destination data for determining where said resulting location information is to be transmitted;
- (e) an indication as to whether a location estimate of the mobile station is to be adjusted according to a known geographical feature different from the communication stations; and
- (f) a desired representation of a location estimate of the mobile station represented by said resulting location information.

290. (Currently Amended) A method for locating one or more mobile stations using wireless signal measurements obtained from transmissions between said mobile stations and a plurality of terrestrial communication stations, wherein each of said communication stations includes one or more of a transmitter and a receiver for wirelessly communicating with said mobile stations, comprising:

receiving a location request for a location of a first of the mobile stations, wherein the first mobile station is capable of providing wireless telephony transmissions, and the first mobile station includes a substantially same collection of components that are in electronic contact with one another for performing each of at least most wireless telephony transmissions from the first mobile station;

generating one or more messages, for information related to a location of said first mobile station, said messages for requesting activation of one or more mobile station location estimators such that when said location estimators are supplied with corresponding input data having values obtained from wireless signal measurements obtained via transmissions between said first mobile

station and the communication stations, said one or more location estimators determine location related information for the first mobile station;

first obtaining, from at least two of said location estimators, first mobile station related location information obtained as a result of an available at least two instances of said corresponding input data;

determining a resulting location estimate of the first mobile station obtained from said first mobile station related location information;

wherein at least one of said steps of generating, first obtaining, and determining includes a substep of one of: (i) transmitting information to a destination via a communication network, and (ii) receiving information from a source via a communication network;

_____using said resulting location information, to determine output location information according to output criteria corresponding to an application requesting data related to a location of the mobile station, wherein said output criteria includes at least some of:

- (a) a transmission protocol;
- (b) a granularity of by which a location estimate of the mobile station represented by said resulting location information is to be provided;
- (c) a frequency with which repeated location estimates of the mobile station are to be output to the application;
- (d) destination data for determining where said resulting location information is to be transmitted;
- (e) an indication as to whether a location estimate of the mobile station is to be adjusted according to a known geographical feature different from the communication stations; and
- (f) a desired representation of a location estimate of the mobile station represented by said resulting location information.

291. (Currently Amended) A method for locating a mobile station using wireless signal measurements obtained from transmissions between said mobile station and at least one of a plurality of terrestrial transceivers capable of wirelessly detecting said mobile station, comprising:
providing access to at least two ~~of the~~ location techniques;
determining whether an accessible first of the location techniques has its corresponding input available for determining a first location estimate of said mobile station;

determining a second location estimate of said mobile station by activating an accessible second of said location techniques different from said first location technique when the corresponding input for said second technique is available;

receiving at least one of said first and second location estimates;

obtaining resulting location information for transmitting on a communications network, wherein said resulting location information is obtained using at least one of said first location estimate and said second location estimate;

wherein when said mobile station is at a first location, an instance of at least said first location estimate is used in said obtaining step for obtaining a first corresponding instance of said resulting location information, and when said mobile station is at a second location, an instance of at least said second location estimate is used in said obtaining step for obtaining a second corresponding instance of said resulting location information; and

wherein for the first location, ~~the corresponding performance of~~ said obtaining step includes: (1) a step of improving upon said instance of at least said first location estimate, and (2) a step of providing information indicative of an accuracy of said first corresponding instance of said resulting location information.

292. (Currently Amended) A mobile station location system, comprising:

a gating module for communicating with two or more mobile station location estimating sources for determining corresponding geographic extents for locations of a plurality of mobile stations, such that for each mobile station **M** of at least some of the mobile stations, when ~~said~~ one or more of the estimating sources are supplied with corresponding data obtained from measurements of wireless signals transmitted between the mobile station **M**, and at least one of (1) and (2) following:

(1) a plurality of communication stations capable of at least one of: wirelessly detecting said mobile stations, and being wirelessly detected by said mobile stations, and

(2) one or more non-terrestrial wireless signal transmitting stations,

then for said one or more location estimating sources supplied with their corresponding data, each such source outputs a corresponding geographic extent of a geographical location of the mobile station **M**;

wherein for a first of said mobile station location estimating sources, ~~when estimating a location of one of the mobile stations~~, and for a second of said mobile station location estimating sources, ~~and~~ for at least one instance of locating one of the mobile stations, said first and second sources can provide if activated, respectively, first and second different corresponding geographic extents for the one mobile station;

wherein the first corresponding geographic extent is not dependent upon the second corresponding geographic extent, and the second geographic extent is not dependent upon the first geographic extent;

wherein said gating module communicates on a communications network with at least the first of the location estimating sources for providing said location system with said corresponding geographic extent for a location L of the mobile station **M**; and

a resulting estimator for determining a likely location estimate of the location L of the mobile station **M** using two or more of said corresponding geographic extents for the mobile station **M**, said resulting estimator activating at least one of: (i) a selector for giving preference, as more indicative of the location L, to at least one geographic extent obtained from said corresponding geographic extents, and (ii) a combiner for combining said two or more corresponding geographic extents for obtaining said likely location estimate.

293. (Previously Presented) The location system, as claimed in Claim 292, wherein one or more of said estimating sources are capable of being at least one of: added, replaced and deleted by transmissions on a communication network between a portion of said location system and a site remote from said portion.

294. (Currently Amended) The location system as claimed in Claim 292, wherein ~~one~~ two or more of:

- (a) at least one of said one or more corresponding geographic extents, GE, has a corresponding value therewith indicative of a likelihood that the mobile station **M** resides in a geographical area represented by GE, and said combiner uses said corresponding value for obtaining said likely location estimate;
- ~~(b) said gating module activates a wireless transceiver for communicating with the plurality of communication stations;~~

~~(e) said plurality of communication stations includes base stations for wireless two way communication with said mobile stations;~~

(b[[d]]) said non-terrestrial wireless signal transmitting stations include GPS satellites;

(c[[e]]) said communications network includes a portion of the Internet;

(d[[f]]) the mobile station **M** has an ability to communicate with other of the mobile stations as a base station;

(e[[g]]) said selector includes a filter for reducing a dependence of said likely location estimate on one of the corresponding geographic extents;

(f[[h]]) said resulting estimator is at least partially included in a mobile base station; and

~~(i) said resulting estimator resides at a location center;~~

~~(j) said gating module resides at a location center;~~

(g[[k]]) said gating module routes activation information to said two or more estimating sources; and

~~(l) said gating module resides at a mobile station.~~

295. (Currently Amended) A mobile station location system, comprising:
a communications controller for selectively communicating with a plurality of mobile station location estimating sources for at least one of (1) and (2) following:

- (1) activating a selected one or more of said mobile station location estimating sources; and
- (2) receiving location related information for locating a plurality of mobile stations;

wherein for each mobile station **M** of at least some of the mobile stations, when one or more of said location estimating sources are supplied with corresponding data obtained from measurements of wireless signals transmitted between (i) and (ii) following:

- (i) the mobile station **M**, and
- (ii) at least one of: a network of communication stations cooperatively linked for use in locating the mobile stations, and one or more non-terrestrial wireless signal transmitting stations,

then each such source supplied with its corresponding data, outputs a corresponding location estimate of a geographical location of the mobile station **M**;

wherein for a first of said mobile station location estimating sources, when estimating a location L_1 of one of the mobile stations, said first source is dependent upon a result from a first

location computing component for computing the location L_1 , and for a second of said mobile station location estimating sources, when estimating a location L_2 of one of the mobile stations, said second source is dependent upon a result from a different second location computing component, wherein the first source is not dependent upon an output from the second location computing component when estimating the mobile at the location L_1 , and the second location computing component is not dependent upon an output from the first location computing component when estimating the mobile at the location L_2 ;

wherein for at least one instance of locating one of the mobile stations, said first and second sources can provide, if activated, different location estimates;

an interface in communication with said controller, said interface for communicating on a communications network with at least one of said first and second location estimating sources for thereby at least one of (3) and (4) following:

- (3) requesting activation of said at least one location estimating source, and
- (4) receiving, from said at least one location estimating source, said corresponding location estimate of the mobile station **M**;

a resulting estimator for determining a likely location estimate of a location L of the mobile station **M** using two or more of said corresponding location estimates for the mobile station **M** at L , wherein said resulting estimator includes at least one of:

- (i) a selector for giving preference, as more indicative of the location L , to at least one preferred location estimate obtained from said corresponding location estimates; and
- (ii) a combiner for obtaining said likely location estimate as a function of said two or more of said corresponding location estimates.

296. (New) The method of Claim 221, wherein said common standardized format defines a plurality of location related data fields, each field having a common data representation for both of said first and second location inputs, said fields for including: (a) information indicative of one of: an error, and a confidence of the first mobile station being in a corresponding location estimate of the first mobile station, and (b) time related information indicative of when the first mobile station is in the corresponding location estimate.

297. (New) The method of Claim 221, wherein said common standardized format defines a plurality of location related data fields, each field having a common data representation for both

of said first and second location inputs, said fields for including information for identifying a corresponding one of the first and second location estimating sources.

298. (New) The method of Claim 221, wherein said common standardized format defines a plurality of location related data fields, each field having a common data representation for both of said first and second location inputs, said fields for including descriptor having information indicative of location related processing performed by a corresponding one of the first and second location estimating sources.

299. (New) The method of Claim 221, wherein said data includes first data for said first location input, and second data for said second location input, and said step of third obtaining includes a step of providing a preference to the first data over the second data when determining said requested information.

300. (New) The method of Claim 245, wherein at least one of the wireless signal measurements for obtaining at least one of the values of the corresponding input data for the first location evaluator is such that this at least one wireless signal measurement is for a wireless signal having its source as a non-terrestrial wireless transmitter above and not supported on the Earth's surface.

301. (New) The method of Claim 247, wherein for locating at least one of the first and second mobile stations, the corresponding one of the first and second sets for performing the locating uses data from wireless signal measurements (S) obtained via transmissions between the at least one mobile station and a plurality of fixed location terrestrial communication stations, wherein at least one of the wireless signal measurements of S is for a wireless signal having its source as a non-terrestrial wireless transmitter above and not supported on the Earth's surface.

302. (New) The method of Claim 269, wherein said first location technique uses a measurement of a wireless signal, S, to the mobile station and from at least one non-terrestrial transceiver above and not supported on the Earth's surface, and said second location technique uses a measurement of a wireless signal transmission, T, between the first mobile station and at least one terrestrial transceiver to improve upon of said first location.

303. (New) The method of Claim 302, wherein said second location technique includes a step of using information dependent upon a wireless coverage area of the at least one transceiver for improving said first location information

304. (New) The method of Claim 303, wherein the at least one transceiver includes a base station for providing two way communication with the mobile station.

305. (New) The method of Claim 290, wherein said output criteria includes at least two of: (a), (b), (c) and (e).